1/6

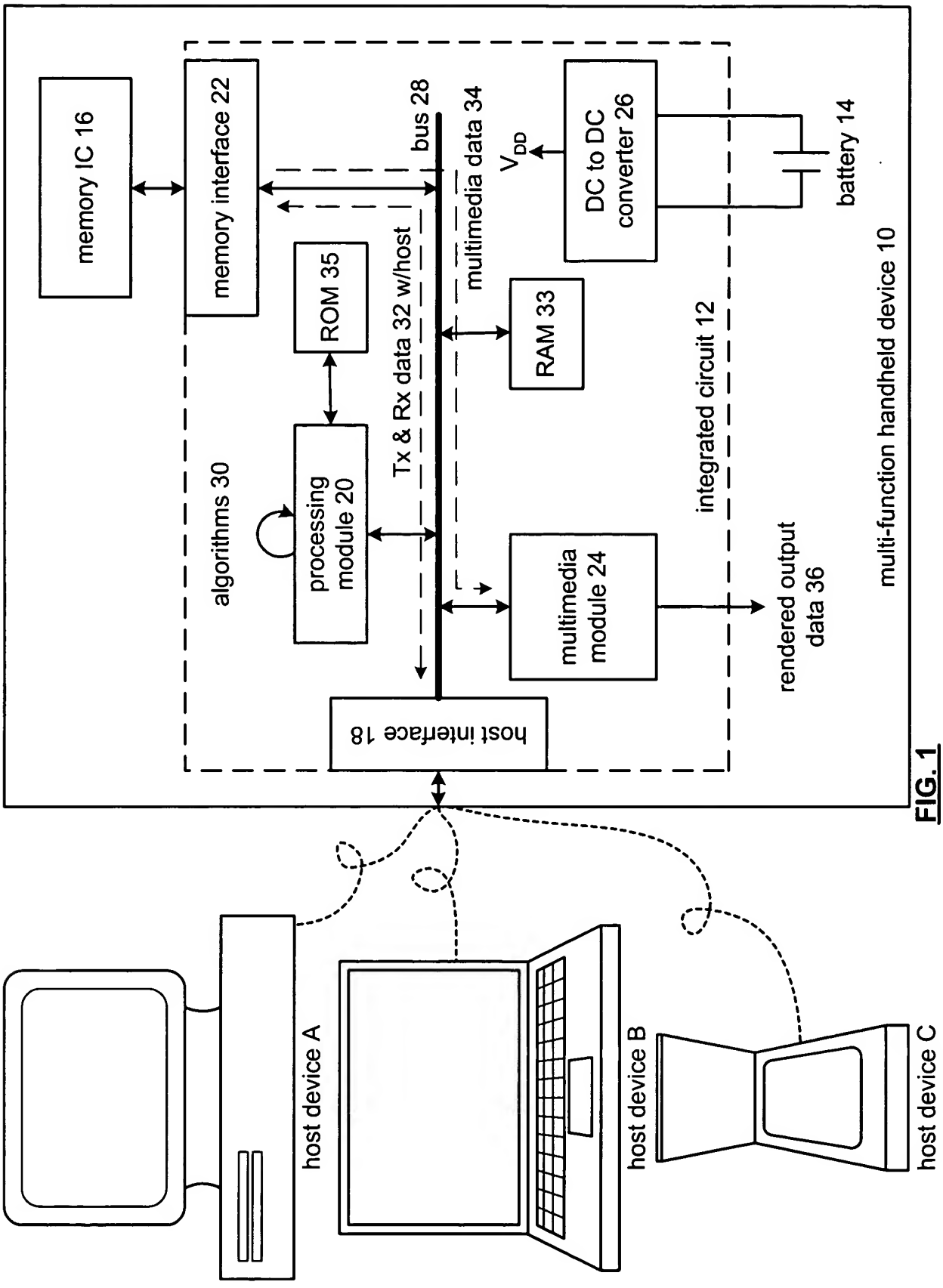
memory IC 16
memory interface 22
bus 28
multimedia data 34
V_{DD}
DC to DC converter 26
battery 14
ROM 35
RAM 33
Tx & Rx data 32 w/host
integrated circuit 12
multi-function handheld device 10
algorithms 30
processing module 20
multimedia module 24
rendered output data 36
host interface 18
host device A
host device B
host device C

FIG. 1

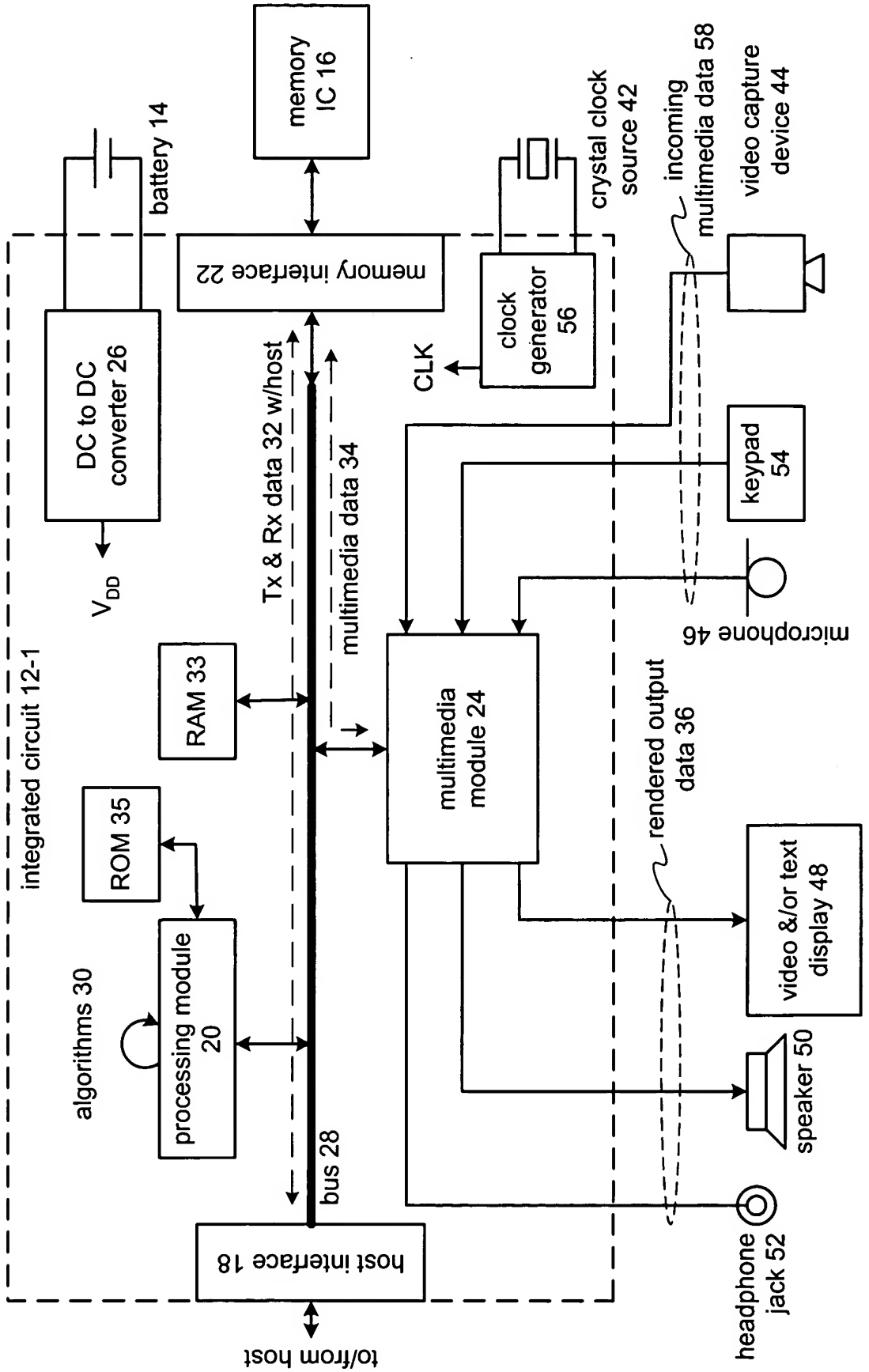

FIG. 2
multi-function handheld device 40

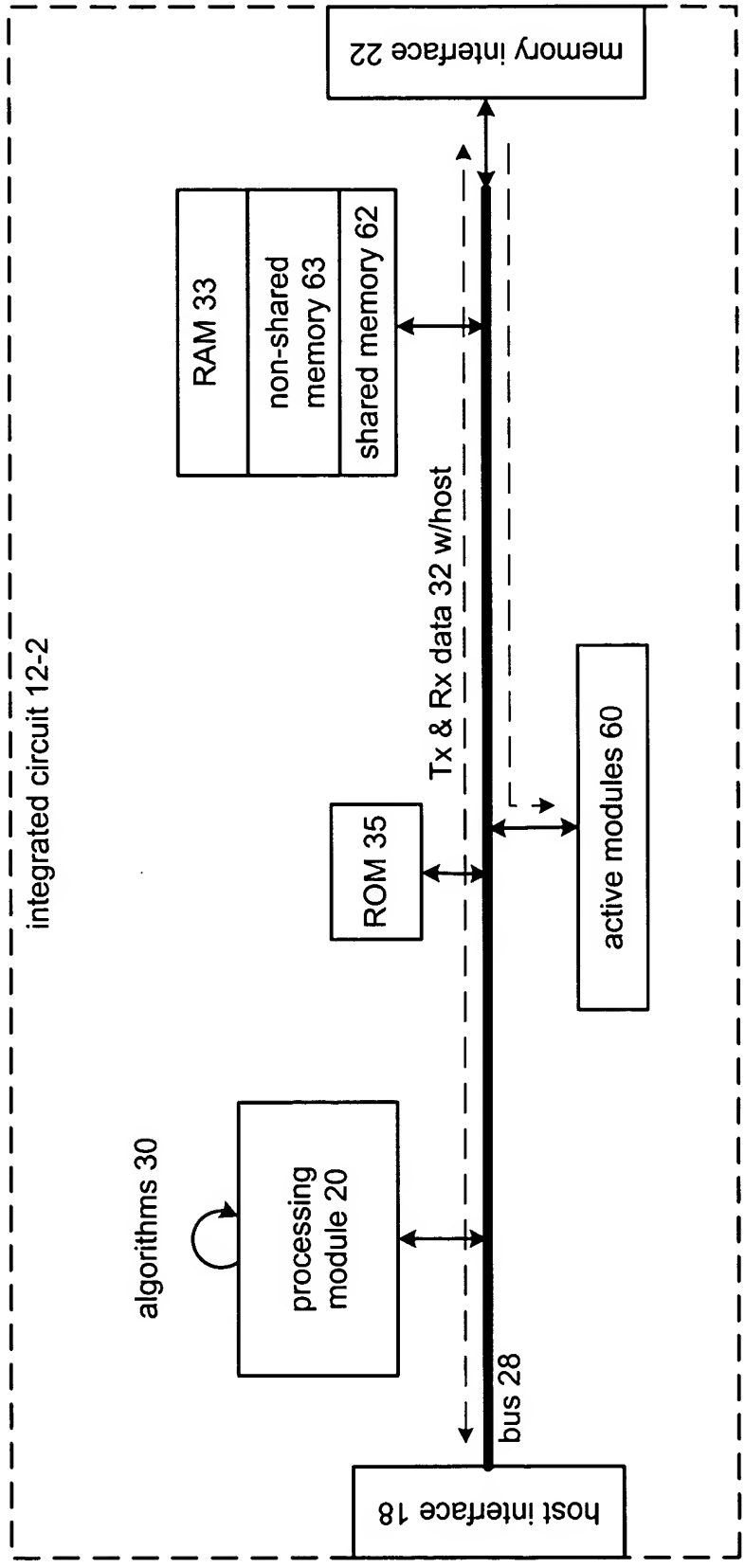

FIG. 3
integrated circuit 12-2

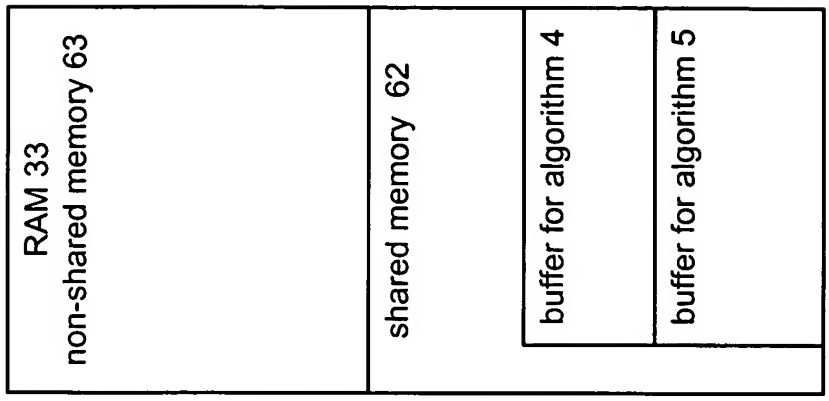

FIG. 4B
RAM 33 in a second configuration

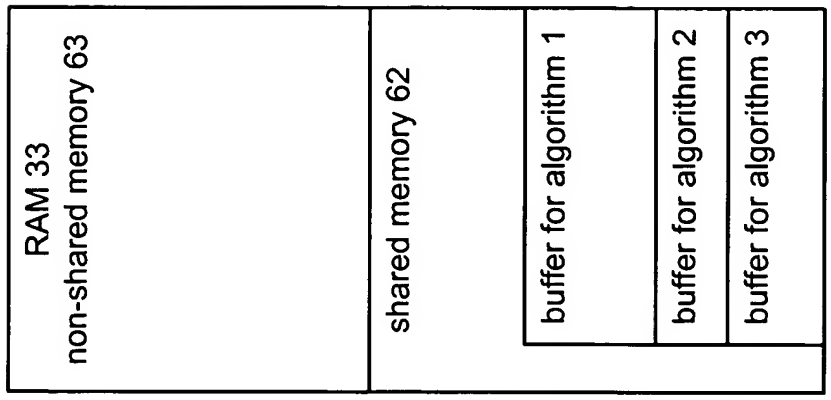

FIG. 4A
RAM 33 in a first configuration

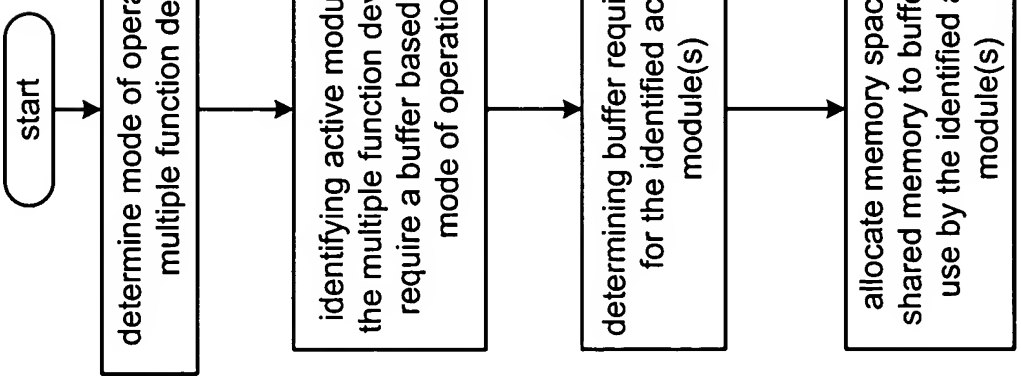
start
70
determine mode of operation of a multiple function device
72
identifying active module(s) of the multiple function device that require a buffer based on the mode of operation
74
determining buffer requirements for the identified active module(s)
76
allocate memory space from shared memory to buffer(s) for use by the identified active module(s)

FIG. 5

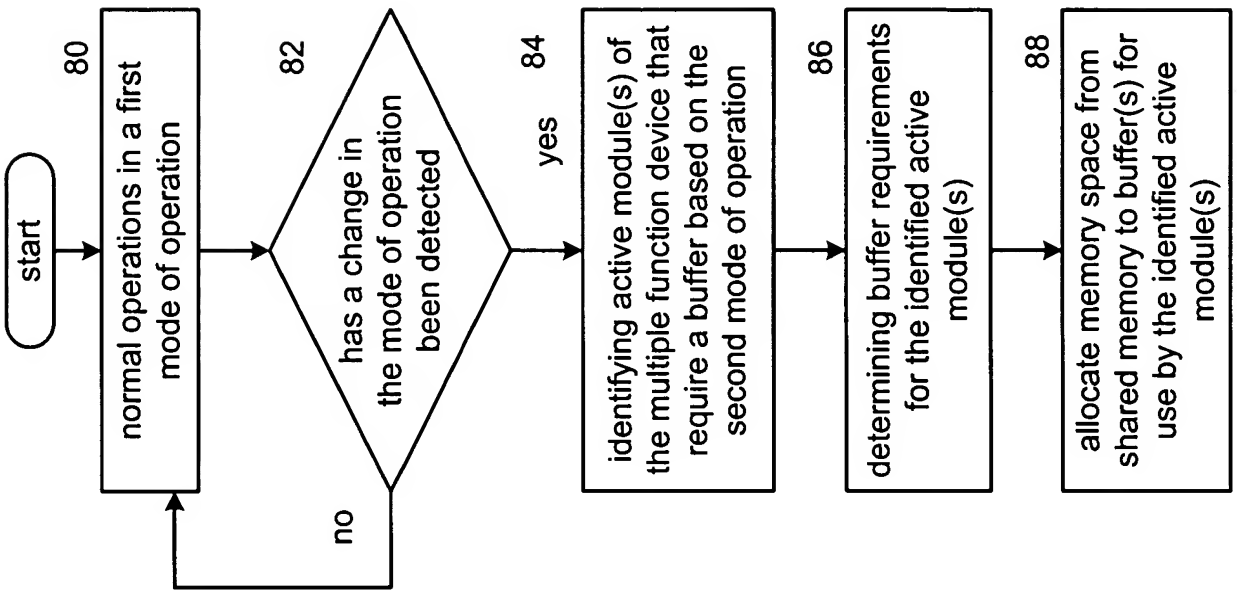
start
80
normal operations in a first mode of operation
82
has a change in the mode of operation been detected
no
yes
84
identifying active module(s) of the multiple function device that require a buffer based on the second mode of operation
86
determining buffer requirements for the identified active module(s)
88
allocate memory space from shared memory to buffer(s) for use by the identified active module(s)

FIG. 6

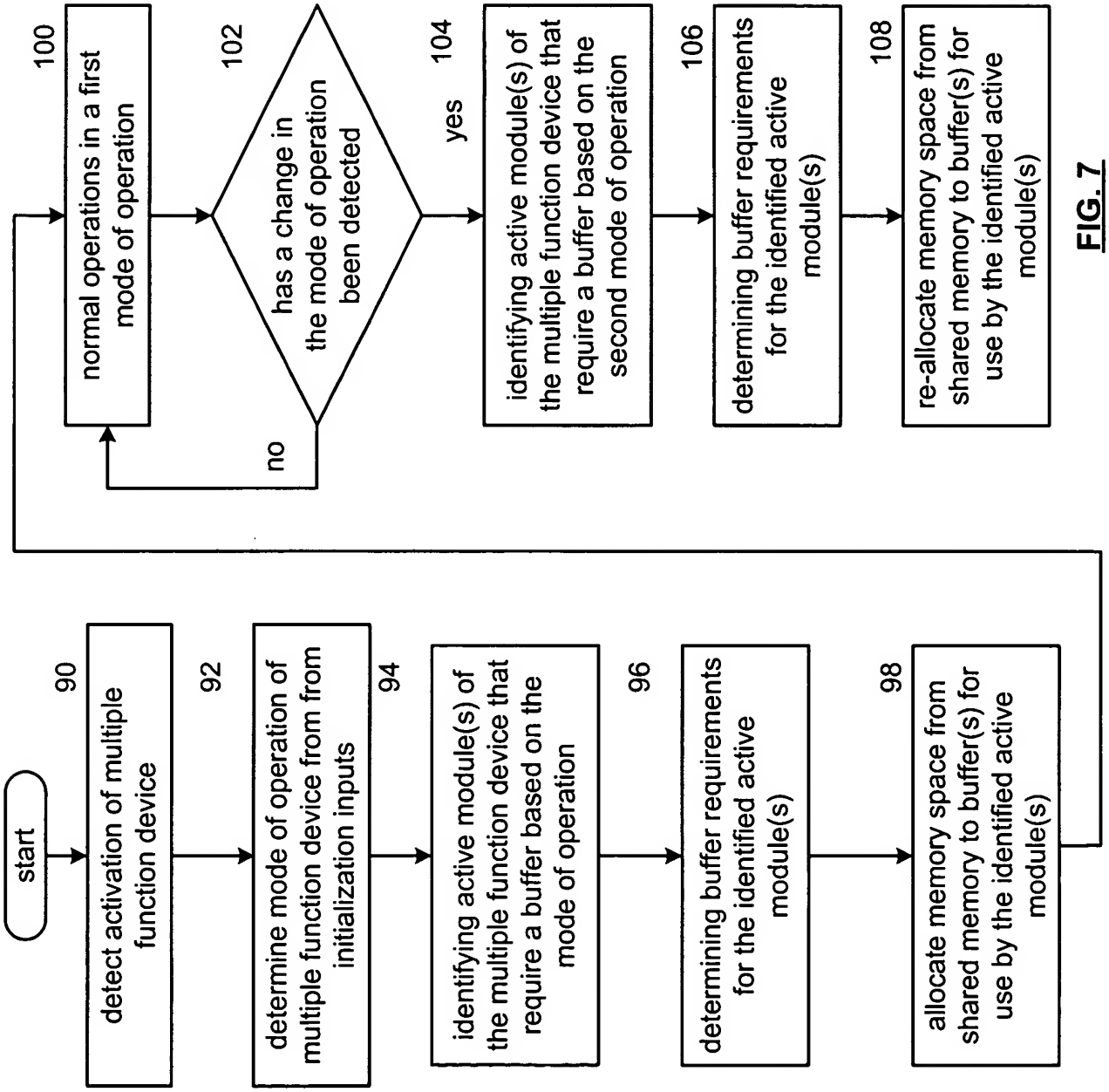
start
90
detect activation of multiple function device
92
determine mode of operation of multiple function device from from initialization inputs
94
identifying active module(s) of the multiple function device that require a buffer based on the mode of operation
96
determining buffer requirements for the identified active module(s)
98
allocate memory space from shared memory to buffer(s) for use by the identified active module(s)
100
normal operations in a first mode of operation
102
has a change in the mode of operation been detected
no
yes
104
identifying active module(s) of the multiple function device that require a buffer based on the second mode of operation
106
determining buffer requirements for the identified active module(s)
108
re-allocate memory space from shared memory to buffer(s) for use by the identified active module(s)

FIG. 7